CLAIMS

1. In a process for the hydrogenation of a cyanoethylether formed by the reaction of a reaction mixture comprised of acrylonitrile or methacrylonitrile with an alcohol in the presence of a catalyst and contaminated with byproduct (meth)acrylonitrile, the improvement in the process which comprises:

utilizing a solvent that solubilizes said byproduct (meth)acrylonitrile present in the feedstock or poly(meth)acrylonitrile generated during the hydrogenation.

2. The process of Claim 1 wherein the solvent is selected from the group consisting of a C_{1-8} alkyl ether, a C_{5-10} cycloalkyl ether, a C_{1-8} alkyl amide, a C_{5-10} cyclic amide, and mixtures thereof.

3. The process of Claim 2 wherein acrylonitrile is reacted with the alcohol.

4. The process of Claim 3 wherein the solvent is selected from the group consisting of tetrahydrofuran, dimethyl ether, diethyl ether, dibutyl ether, methyl-tertiary-butyl ether, and mixtures thereof.

5. The process of Claim 4 wherein the alcohol is selected from the group consisting of a C_1-C_{30} alkanol, a C_{1-8} alkylether alcohol, a polyol, and mixtures thereof.

6. The process of Claim 5 wherein the alcohol is selected from the group consisting of methanol, ethanol, ethanol, propanol, butanol, hexanol, methoxy methanol, methoxy ethanol, ethoxy ethanol, ethoxy propanol, propoxy ethanol, propoxy propanol, and mixtures thereof.

7. The process of Claim 4 wherein the alcohol is an aliphatic glycol selected from the group consisting of a C_{2-8} aliphatic glycol, a C_{2-8} ether glycol, and mixtures thereof.

8. The process of Claim 7 wherein the aliphatic glycol is selected from the group consisting of ethylene glycol, propylene glycol, butylene glycol, pentane glycol, diethylene glycol, and dipropylene glycol.

9. The process of Claim 4 wherein the alcohol is a polyol selected from the group consisting of glycerin, sorbitol, mannitol, and a polymeric polyether polyol having a number average molecular weight of up to about 4 million.

10. The process of Claim 9 wherein the polyol is a polymeric polyether polyol selected from the group consisting of polyethylene glycol, polypropylene glycol, polybutylene polyol, and polytetrahydrofuran.

11 The process of Claim 4 wherein the catalyst is comprised of a cobalt metal.

12. The process of Claim 11 wherein the cyanoethylether is selected from the group consisting of bis-(2-cyanoethyl)ethylene glycol, bis-(2-cyanoethyl)diethylene glycol, mono-(2-cyanoethyl)diethylene glycol, and bis(2-cyanoethyl)tetramethylene glycol.

13. The process of Claim 12 wherein the cyanoethylether is bis-(2-cyanoethyl)diethylene glycol.

14. The process of Claim 12 wherein the solvent is methyl-tertiary-butyl ether.

15. The process of Claim 2 wherein the solvent is a C_{1-8} alkyl amide or a C_{5-8} cycloalkyl amide.

16. The process of Claim 15 wherein the solvent is an amide selected from the group consisting of dimethylformamide, acetamide, and N-methyl pyrrolidone.

17. The process of Claim 16 wherein acrylonitrile is reacted with the alcohol.

18. The process of Claim 17 wherein the alcohol is selected from the group consisting of a C_1-C_{30} alkanol, a C_{1-8} alkylether alcohol, and mixtures thereof.

19. The process of Claim 18 wherein the alcohol is selected from the group consisting of methanol, ethanol, ethanol, propanol, butanol, and hexanol, methoxy

methanol, methoxy ethanol, ethoxy ethanol, ethoxy propanol, propoxy ethanol, and propoxy propanol.

20. The process of Claim 15 wherein the alcohol is an aliphatic glycol selected from the group consisting of a C_{2-8} aliphatic glycol, an ether glycol, and mixtures thereof.

21. The process of Claim 20 wherein the aliphatic glycol is selected form the group consisting of ethylene glycol, propylene glycol, butylene glycol, pentane glycol, diethylene glycol, and dipropylene glycol.

22. The process of Claim 21 wherein the catalyst is a cobalt metal.